

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Gorecki on 07/20/2009, followed by applicant's submitted claim draft on the same date.

The claims have been amended as follows:

Claim 21. (Currently Amended) A method of allocating processing capacity of system processing units in an extranet gateway, the method comprising the steps of:

establishing a first initial expected available processing bandwidth of a first of the system processing units, the first expected available processing bandwidth representing a first amount of VPN tunnel bandwidth which the first of the system processing units is expected to be able to handle;

establishing a second initial expected available processing bandwidth of a second of the system processing units, the second expected available processing bandwidth representing a second amount of VPN tunnel bandwidth the second of the system processing units is expected to be able to handle; and

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assigning a Virtual Private Network (VPN) tunnel to one of the first and second system processing units for processing according to estimated current available bandwidths of the first and second system processing units, the estimated current available bandwidths being estimated by assessing the initial expected available bandwidths for each system processing unit and decrementing the initial expected available bandwidth of each system processing unit by other processing requirements assigned to that respective system processing unit;

wherein the step of assigning the VPN tunnel to one of the first and second system processing units looks to assign the VPN tunnel to the system processing unit with the highest estimated current available bandwidth, the highest current available bandwidth being based on an absolute bandwidth capacity basis, the absolute bandwidth being calculated by determining which system processing unit has a largest amount of estimated current available bandwidth;

wherein the first initial expected available bandwidth is established by determining whether the first system processing unit is an accelerator or a central processing unit (CPU); and

wherein if the first system processing unit is a CPU, the step of establishing the first initial expected available bandwidth comprises determining a type of CPU and CPU speed, obtaining a first conversion factor for the type of CPU, and multiplying the conversion factor with the CPU speed.

Claim 22. (Cancelled)

Claim 23. (Currently Amended) The method of claim ~~22~~ 21, wherein if the first system processing unit is an accelerator, the step of establishing the first initial expected available bandwidth comprises determining a type of accelerator and obtaining expected available bandwidth information for that type of accelerator from an initial expected bandwidth table.

Claim 24. (Cancelled)

Claim 25. (Currently Amended) The method of claim ~~24~~ 21, wherein the first conversion factor is based on an amount of bandwidth passable by that processor type per unit CPU speed.

Claim 27. (Currently Amended) The method of claim 26, wherein the processing requirements associated with other VPN tunnels assigned to that system processing unit comprise encryption and de-encryption processing requirements for the other VPN tunnels.

Claim 28. (Currently Amended) The method of claim 26, wherein the other processing requirements of a system processing unit further comprise processing

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requirements associated with other VPN tunnels assigned to other system processing units.

Claim 30. (Currently Amended) A method of allocating processing capacity of system processing units in an extranet gateway, the method comprising the steps of:

establishing a first initial expected available processing bandwidth of a first of the system processing units, the first expected available processing bandwidth representing a first amount of VPN tunnel bandwidth which the first of the system processing units is expected to be able to handle;

establishing a second initial expected available processing bandwidth of a second of the system processing units, the second expected available processing bandwidth representing a second amount of VPN tunnel bandwidth the second of the system processing units is expected to be able to handle; and

assigning a Virtual Private Network (VPN) tunnel to one of the first and second system processing units for processing by assessing current available bandwidths of the first and second system processing units, the current available bandwidths being determined by assessing the initial expected available bandwidth for that system processing unit as decremented by other processing requirements for that system processing unit;

wherein the step of assigning the VPN tunnel to one of the first and second system processing units looks to assign the VPN tunnel to the system processing unit with the highest estimated current available bandwidth, the highest current available

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bandwidth being based on a relative bandwidth capacity basis, the relative bandwidth being calculated by determining which system processing unit has a highest percentage of available capacity;

wherein the first initial expected available bandwidth is established by determining whether the first system processing unit is an accelerator or a central processing unit (CPU); and

wherein if the first system processing unit is a CPU, the step of establishing the first initial expected available bandwidth comprises determining a type of CPU and CPU speed, obtaining a first conversion factor for the type of CPU, and multiplying the conversion factor with the CPU speed.

Claim 31. (Cancelled)

Claim 32. (Currently Amended) The method of claim ~~34~~ 30, wherein if the first system processing unit is an accelerator, the step of establishing the first initial expected available bandwidth comprises determining a type of accelerator and obtaining expected available bandwidth information for that type of accelerator from an initial expected bandwidth table.

Claim 33. (Cancelled)

Claim 34. (Currently Amended) The method of claim ~~33~~ 30, wherein the first conversion factor is based on an amount of bandwidth passable by that processor type per unit CPU speed.

Claim 36. (Currently Amended) The method of claim 35, wherein the processing requirements associated with other VPN tunnels assigned to that system processing unit comprise encryption and de-encryption processing requirements for the other VPN tunnels.

Claim 37. (Currently Amended) The method of claim 35, wherein the other processing requirements of a system processing unit further comprise processing requirements associated with other VPN tunnels assigned to other system processing units.

### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

Claims 21, 23, 25-30, 32, 34-38 are allowed. The prior art of record does not teach the claimed invention, as follows.

For independent claim 21, the prior art does not teach or render obvious the followings:

a step of assigning the VPN tunnel to one of the first and second system processing units looks to assign the VPN tunnel to the system processing unit with the

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highest estimated current available bandwidth, the highest current available bandwidth being based on an absolute bandwidth capacity basis, the absolute bandwidth being calculated by determining which system processing unit has a largest amount of estimated current available bandwidth; wherein the first initial expected available bandwidth is established by determining whether the first system processing unit is an accelerator or a central processing unit (CPU); and wherein if the first system processing unit is a CPU, the step of establishing the first initial expected available bandwidth comprises determining a type of CPU and CPU speed, obtaining a first conversion factor for the type of CPU, and multiplying the conversion factor with the CPU speed.

For independent claim 30, the prior art does not teach or render obvious the followings:

a step of assigning the VPN tunnel to one of the first and second system processing units looks to assign the VPN tunnel to the system processing unit with the highest estimated current available bandwidth, the highest current available bandwidth being is based on a relative bandwidth capacity basis, the relative bandwidth being calculated by determining which system processing unit has a highest percentage of available capacity; wherein the first initial expected available bandwidth is established by determining whether the first system processing unit is an accelerator or a central processing unit (CPU); and wherein if the first system processing unit is a CPU, the step of establishing the first initial expected available bandwidth comprises determining a

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type of CPU and CPU speed, obtaining a first conversion factor for the type of CPU, and multiplying the conversion factor with the CPU speed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is included in form PTO 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

07/21/2009

/Kenny S Lin/

Primary Examiner, Art Unit 2452